

Basalt/Diabase Great Lakes Cliff Sparse Vegetation

| | |
|-----------------------|--|
| COMMON NAME | Basalt/Diabase Great Lakes Cliff Sparse Vegetation |
| SYNONYM | Great Lakes Basalt/Diabase Cliff |
| PHYSIOGNOMIC CLASS | Sparse Vegetation (VII) |
| PHYSIOGNOMIC SUBCLASS | Consolidated rock sparse vegetation (VII.A) |
| PHYSIOGNOMIC GROUP | Sparsely vegetated cliffs (VII.A.1) |
| PHYSIOGNOMIC SUBGROUP | Natural/Semi-natural (VII.A.1.N) |
| FORMATION | Cliffs with sparse vascular vegetation (VII.A.1.N.a) |
| ALLIANCE | OPEN BLUFF/CLIFF SPARSELY VEGETATED ALLIANCE |

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM TERRESTRIAL

RANGE

Isle Royale National Park

This community is uncommon; it is mostly found on ridges near the northwest shore of the park, and it also occurs along the shoreline cliffs on the northwest shore.

Globally

This association is found in Minnesota, Wisconsin, Michigan, and Ontario.

ENVIRONMENTAL DESCRIPTION

Isle Royale National Park

This community occupies very steeply sloping cliffs where the exposed bedrock is basalt, usually at elevations ranging from 605 to 705 feet.

Globally

This community occurs on vertical or near-vertical, south- to west-facing aspects of basalt or diabase bedrock. In Michigan cliffs range from only 3 - 6 m to over 60 m tall (Albert *et al.* 1995). Moisture is derived from precipitation. Cliffs along the Great Lakes shore are exposed to severe wave action, preventing establishment of vegetation.

MOST ABUNDANT SPECIES

Isle Royale National Park

| | |
|----------------|---|
| <u>Stratum</u> | <u>Species</u> |
| Shrub | <i>Pinus strobus</i> , <i>Picea glauca</i> , <i>Alnus viridis</i> |
| Fern | <i>Woodsia ilvensis</i> , <i>Polypodium virginianum</i> |
| Graminoid | <i>Deschampsia flexuosa</i> |
| Nonvascular | <i>Cladonia</i> spp. |

Globally

| | |
|----------------|---|
| <u>Stratum</u> | <u>Species</u> |
| Fern | <i>Woodsia ilvensis</i> , <i>Polypodium virginianum</i> |
| Graminoid | <i>Deschampsia flexuosa</i> |
| Nonvascular | <i>Cladonia</i> spp., <i>Pleurozium schreberi</i> |

CHARACTERISTIC SPECIES

Isle Royale National Park

Cladonia spp., *Woodsia ilvensis*, *Polypodium virginianum*, *Deschampsia flexuosa*

Globally

Cladonia spp., *Woodsia ilvensis*, *Polypodium virginianum*, *Deschampsia flexuosa*

VEGETATION DESCRIPTION

Isle Royale National Park

This basalt cliff type is sparsely vegetated. Crustose and foliose lichens and mosses are very common: characteristic lichens (average 40% cover) include *Cladonia* spp., *Xanthoparmelia* spp., *Umbilicaria deusta*, *Lobaria pulmonaria*, *Parmelia* spp., and *Rhizocarpon* spp. Characteristic mosses (average 30% cover) are *Schistidium* spp. and *Pleurozium schreberi*. The most abundant herbs are *Woodsia ilvensis*, *Polypodium virginianum*, and *Deschampsia flexuosa*. The most abundant trees and shrubs are *Pinus strobus* (average 5% cover), *Picea glauca*, and *Alnus viridis* (each with < 2% cover).

USGS-NPS Vegetation Mapping Program

Isle Royale National Park

Globally

Vegetation is often sparse, due to severe wave action. Mosses, lichens, ferns, and liverworts may be found, with occasional graminoids in crevices or shelves that trap soil. In Minnesota, arctic-alpine disjunct plant species (e.g., *Arenaria macrophylla*, *Draba norvegica*) and more temperate plant species may be found (Minnesota nhp 1993, Albert *et al.* 1995). At Isle Royale NP, crustose and foliose lichens and mosses are very common. Characteristic lichens (average 40% cover) include *Cladonia* spp., *Xanthoparmelia* spp., *Umbilicaria deusta*, *Lobaria pulmonaria*, *Parmelia* spp., and *Rhizocarpon* spp. Characteristic mosses (average 30% cover) are *Schistidium* spp. and *Pleurozium schreberi*. The most abundant herbs are *Woodsia ilvensis*, *Polypodium virginianum*, and *Deschampsia flexuosa*. The most abundant trees and shrubs are *Pinus strobus* (average 5% cover), *Picea glauca*, and *Alnus viridis* (each with < 2% cover) (C. Reschke personal communication 1999).

OTHER NOTEWORTHY SPECIES

Isle Royale National Park

Information not available.

CONSERVATION RANK G?.

DATABASE CODE CEGl005191

MAP UNITS 52

COMMENTS

REFERENCES

- Albert, D. A., P. J. Comer, R. A. Corner, D. Cuthrell, M. Penskar, and M. Rabe. 1995. Bedrock shoreline survey of the Niagaran Escarpment in Michigan's Upper Peninsula: Mackinac County to Delta County. Michigan Natural Features Inventory for Land and Water Management Division (grant # CD-0.02).
- Minnesota Natural Heritage Program. 1993. Minnesota's native vegetation: A key to natural communities. Ver. 1.5. Minn. Dep. Nat. Resour., Nat. Heritage Prog. St. Paul, Minn. 110 p.